

Wichita's Ambient Air Quality Attainment Status for Ozone:

In November of 2008, the Wichita MSA was deemed in attainment per KDHE as the three year (2006 – 2008) averages of the fourth highest 8-hour ozone level at each Wichita monitoring site was within acceptable EPA ozone levels; all levels were below .075 ppm.

How do we measure ozone levels in the Wichita Metropolitan Statistical Area (MSA)?

In March, 2008, EPA revised the National Ambient Air Quality Standards (NAAQS) for ground-level ozone to 0.075 parts per million (ppm). This revision reflects new evidence about ozone and its adverse effects on public health and the environment. Ozone is the only one of EPA's six criteria air pollutants that Wichita is close to violating.

The State of Kansas operates a series of ozone monitors throughout the metropolitan area to measure concentrations of ozone in our air (Figure 1).

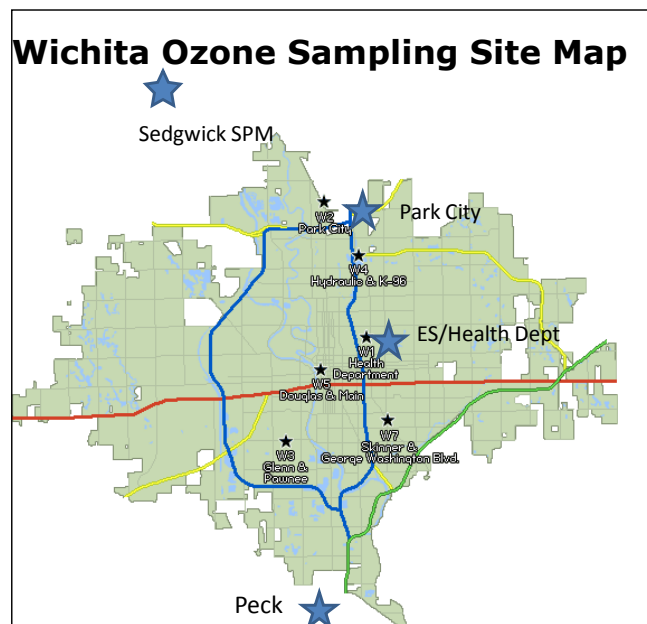


Figure 1

Wichita Ozone Monitoring Results:

Historically, three monitors have measured ozone levels in Sedgwick County. One is near the Sedgwick-Sumner County line at Peck to measure air moving in from the south. Another is at Park City to measure the air as it moves past Wichita. The third monitor is located at the City's Environmental Services Building (Health Dept.) at 1900 E. Ninth Street to measure the

air near the central downtown corridor. A fourth monitor was installed by KDHE in 2008 as a special monitor. The fourth highest 8-hour measurements for these four monitors are:

Site	2006 (4 th Highest Value)	2007 (4 th Highest Value)	2008(4 th Highest Value)
➤ Peck	➤ 0.080 ppm	➤ 0.078 ppm	➤ 0.068 ppm
➤ Park City	➤ 0.065 ppm	➤ 0.062 ppm	➤ 0.060 ppm
➤ Env. Services Bldg.	➤ 0.073 ppm	➤ 0.074 ppm	➤ 0.067 ppm
➤ Sedgwick (Special)	➤ N/A	➤ N/A	➤ 0.058 ppm

The EPA looks at the annual fourth-highest day, which is averaged over a three-year period to determine whether an area exceeds the ozone standard. Each year, the oldest year's value is dropped from the average and the most recent year is added. Monitors with the highest readings are used to determine whether the standard is exceeded.

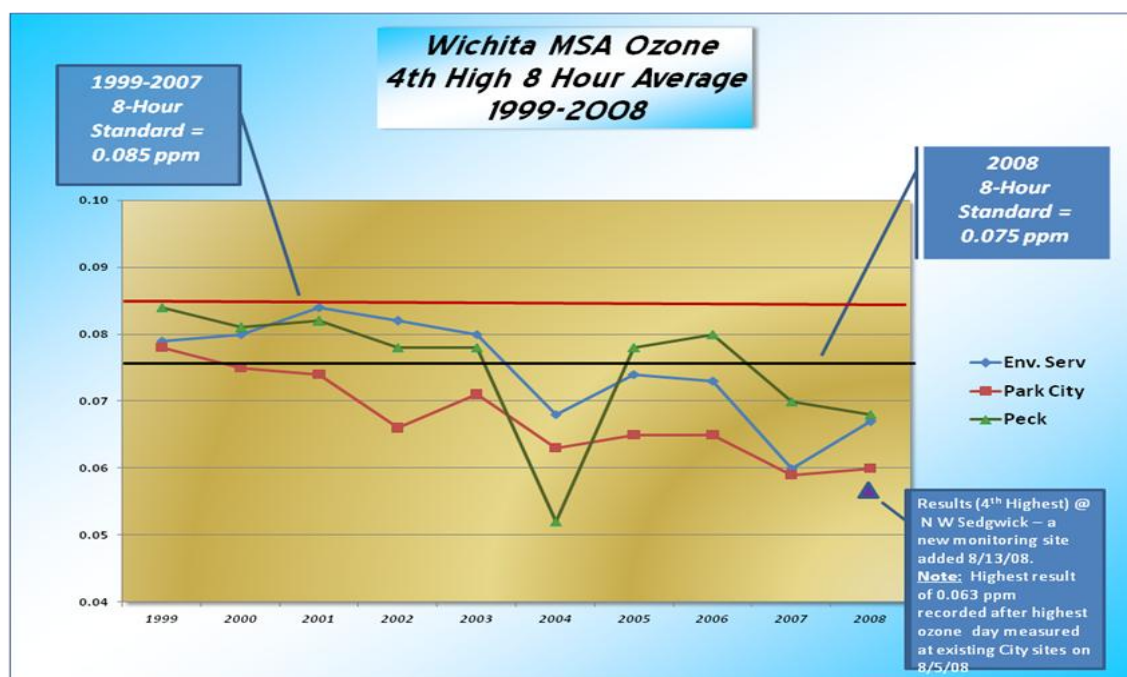


Figure 2

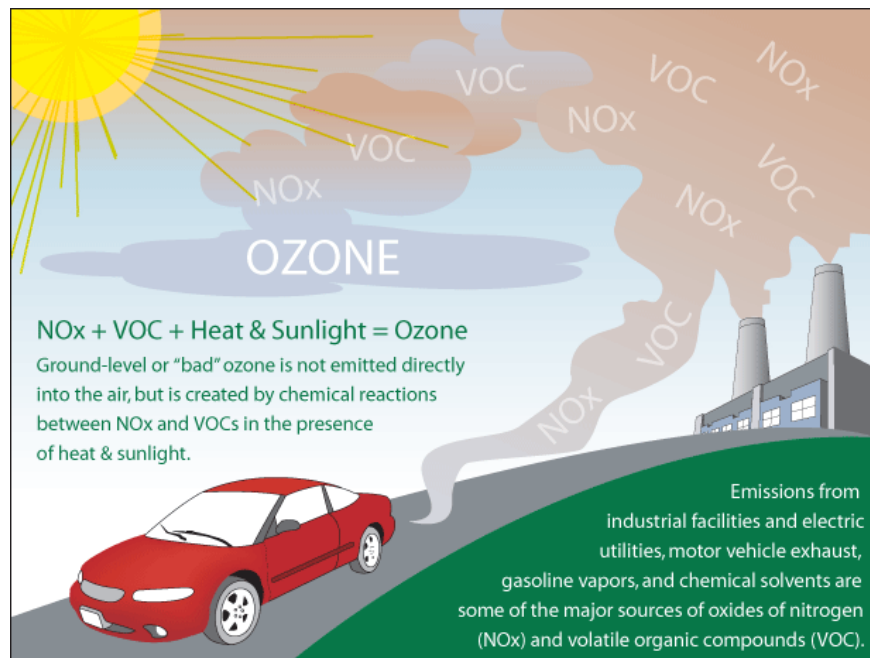
In November of 2008, the Wichita MSA was deemed in attainment per KDHE as the three year (2006 – 2008) averages of the fourth highest 8-hour ozone level at each monitor were within acceptable EPA ozone levels – all levels were below .075 ppm. The cool damp weather conditions this summer was a key factor in reaching 2008 attainment, maintaining ozone compliance levels for the second summer in a row. However, the weather conditions cannot be depended on as a mechanism for compliance.

What is ozone and how is it formed?

Ozone (O₃) is a gas that occurs in the Earth's upper atmosphere and at ground-level. In the upper atmosphere ozone acts as a protective layer against ultra-violet (UV) radiation. Ground-level ozone, or "bad" ozone, is created by a chemical reaction between nitrogen oxides and volatile organic compounds (VOCs) in the presence of heat and sunlight. Ground-level ozone

is the primary component of smog. Ground-level ozone levels are typically the highest on hot summer days, with little or no cloud cover and very little wind.

Motor vehicle exhaust, industrial emissions, gasoline vapors, and chemical solvents are some of the major sources of NO_x and VOC emissions that contribute to ground-level ozone formation. Grass burning activities and fires can also contribute to ozone formation. Large urban areas tend to have the highest ozone levels, but even rural areas can experience increased ozone levels when wind carries ozone hundreds of miles from their original sources.



What are the health effects of ground-level ozone?

Even at low levels, ground-level ozone triggers a variety of health problems including asthma attacks, reduced lung capacity, and increased susceptibility to respiratory illnesses like pneumonia and bronchitis. Ozone can cause permanent lung damage after long-term exposure. Ozone can irritate lung airways and cause inflammation. Other symptoms include wheezing, coughing, pain when taking a deep breath and breathing difficulties during exercise or outdoor activities. People with existing respiratory problems are most vulnerable to elevated ozone levels. Ground-level ozone also damages the leaves of trees and other plants, ruining the appearance of cities, national parks, and recreation areas. Ozone reduces crop and forest yields, and increases plant vulnerability to disease, pests, and harsh weather.

Communities and Cities Potentially Impacted:

If even one ozone monitor in the Wichita area violates the new ozone standard, the entire Wichita Metropolitan Statistical Area (Sedgwick, Butler, Harvey, and Sumner counties) would be designated by EPA as an ozone nonattainment area. Areas designated as nonattainment, even after reducing their ozone levels to comply, remain a maintenance area for an additional 10 years.